MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on August 13th, 2008. Those in attendance were:

Greg Perfetti	State Bridge Design Engineer (Co-Chairman)
Berry Jenkins	Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman)
Mike Robinson	State Bridge Construction Engineer
Randall Gattis	Sanford Contractors
Chris Britton	Taylor & Murphy Construction Co.
Bryan Long	Dane Construction, Inc.
Allen Raynor	Asst. State Bridge Design Engineer
Brian Hanks	Structure Design Project Engineer
Paul Lambert	Structure Design Project Engineer
Scott Hidden	Support Services Supervisor – Geotech. Eng. Unit
Chris Kreider	Regional Operations Engineer – Geotech. Eng. Unit
Gichuru Muchane	Structure Design Engineer
Steve Walton	Metals Engineer – Materials & Tests Unit

During the review of the June 18th, 2008 meeting minutes, the following items were discussed:

1. *Division Lettings*

   Mr. Robinson reported that there is some discussion on streamlining Division lettings. He added that Mr. Randy Garris, State Contracts Officer, would be invited to the next AGC meeting to brief Contractors on some of the proposals for Division lettings.

   Contractors reiterated that electronic availability of plans would be very helpful, especially when sub-contractors need a set of plans.

2. *Railroad Flagging*

   Mr. Raynor reported that one of the projects in the August letting will include the new special provision for railroad flagging in the contract plans. He noted that the cap on Contractor incentives has been removed from the special provision.

   Mr. Raynor added that Mr. Ellis Powell, State Construction Engineer, will bring this topic up for discussion at the national level at an upcoming AASHTO construction meeting. A briefing will be provided at the next AGC meeting if more information is available.

3. *Integral*

   Mr. Hanks stated that the Department will be letting two integral abutment projects, which will require the Contractor to perform a post-bid design of a temporary fabric wall. The temporary fabric wall will:

   - Allow the construction crane to sit as close to the bridge as possible, and
   - Perform the functions of the reinforced approach fill.

   Mr. Hanks added that after a couple of trial projects, Structure Design intends to standardize the temporary fabric wall and allow its use, at the Contractor's option, on bridges with integral abutments.

4. *Staged Construction Formwork*

   In the last meeting's minutes, Item 5 – *Staged Construction Formwork,* in the second paragraph replace "closure pour" with "bay spacing" for a more accurate description.

The minutes of the June 18th, 2008 meeting were approved.

The following items of new business were discussed:

1. *Field Welding Procedures*

   Mr. Walton reported that the Materials and Tests Unit (M&T) has developed new field welding procedures, which are based on the 2008 AASHTO/AWS D1.5 -- Bridge Welding Code. He discussed some of the challenges welders face when performing a variety of different welds. As such, M&T has developed five different welding procedures, such as for pipe piles, sole plates, stay-in-place forms, etc.

   Mr. Walton distributed sample forms with details on the welding procedures. He added that M&T is currently drafting a special provision, which will require Contractors to follow the new procedures and eliminate the need for Contractor submittals.

   Mr. Walton also stated that for the Department's Welder Certification Program, welders will now be tested on full penetration welds using the back-gouging method in lieu of using a backing plate.

   Contractors inquired when field splicing piles was not permitted. One of the Contractors described a recent project where 70 foot long piles were required. He opted to use 2-35 foot long pile sections, which were to be spliced together, but this was disallowed in favor of single 70-foot piles.

   Mr. Walton noted that Contractors have had problems achieving full penetration welds when splicing piles. After discussion, it was decided that couplers would be required for H-piles. Mr. Walton offered to supply Contractors with a list of approved pile couplers.

2. *Electronic Submittals*

   Mr. Robinson reported that many Contractors have a preference for electronic submittals, such as in PDF format. Mr. Lambert stated that Structure Design has been encouraging Contractors to make electronic submittals, and currently approximately 20% of the submittals are submitted electronically.

   Contractors noted that most fabrication shops handle all shop drawings electronically, hence there is little need for prints except for submittals. Mr. Jenkins stated that he would bring this topic up for discussion at the AGC-DOT Joint Cooperative Committee meeting.

3. *Soldier Pile Retaining Walls*

   Contractors inquired why the Department had changed soldier pile retaining walls from wall designs included in the plans to Contractor post-bid designs.

   Mr. Hidden responded by stating that the intention was to provide Contractors the flexibility to construct soldier pile retaining walls with either precast panels or a cast-in-place facing.

4. *Screed Loads on Partially Cured Decks*

   Mr. Hanks reported that the Structure Design and Construction Units had completed the review of the screed loads on partially cured decks and the following guidance has been sent to the field personnel.

When a screed is supported by the overhang forms and falsework:

- The screed may be moved across a previously cast deck at any time when the concrete in the entire pour has yet to achieve initial set.
- When any portion of the concrete in the deck has achieved initial set, the screed may not be rolled across the pour until the concrete has achieved at least 1500 psi as evidenced by non-destructive testing.

5. *Other*

i. Grout Pots

Mr. Walton inquired whether Contractors were using grout pots as intended, especially in regards to filling them with grout. He stated that the grout pots should be filled from the bottom up by pumping grout through the attached pipe. This ensures air is not trapped in the grout pot. He also noted that some Contractors have requested approval to blockout the anchor bolt grout hole with a pool noodle. He noted that such requests suggest that there is a general lack of an understanding of how the grout pots should be used.

Structure Design stated that they would review other States' practices and the AASHTO-NSBA collaboration documents for alternate details.

ii. Welds on Sole Plates

Mr. Walton stated the welds on sole plates often corrode due to inadequate corrosion protection. He noted that the Standard Specifications require two coats of zinc-rich paint and emphasized that the surface preparation and method of application of the paint systems is very important to the success of the paint system. He suggested Structure Design include a plan note that requires painting the sole plate welds within 8 hours.

iii. Interpretation of the Standard Specifications

Mr. Britton requested an interpretation of the Standard Specifications for driving pipe piles with a driving plate. He wanted to know what recourse Contractors have when using an pile hammer within the approved energy range, but is having difficulty achieving the minimum pile tip elevation. The discussion noted that the Department provides no performance guarantee for the approved hammer. As such, the Contractor may have to rent a larger hammer.

iv. Reusable Materials for Temporary Soldier Pile Retaining Walls

Mr. Britton inquired if the Department has any criteria for determining the suitability of previously used material for re-use in temporary retaining walls. He added that in some situations the condition of the material is required to be as described in the Standard Specifications for steel bearing piles.

Mr. Hidden and Mr. Lambert stated that they would develop some guidance for the condition of reusable materials.

6. *Next Meeting*

The next meeting is scheduled for Wednesday, October 15th, 2008 in Structure Design Conference Room C.